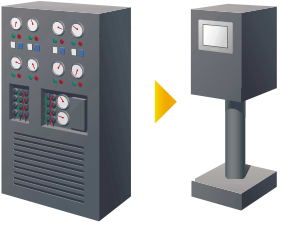


Based on the concept that the display makes tasks so much easier.

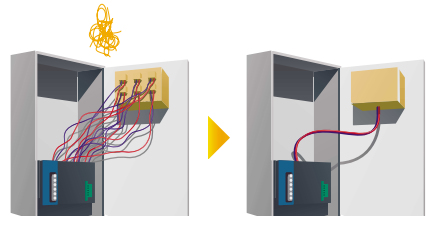
Streamlined and compact



For even greater streamlining!

All switches, lamps and meters, etc., can be rendered on the touch screen for space savings.


Even the wiring is more streamlined



Easy Maintenance!

Single-cable connections enable simple wiring regardless of the number of switches or lamps added.

Easy-to-understand display



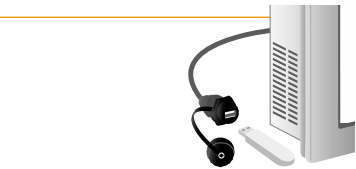
Easily seen at a glance!

Machinery status intuitively visible and easy to understand with graphic objects.

Full complement of functions in the ST3000 Series

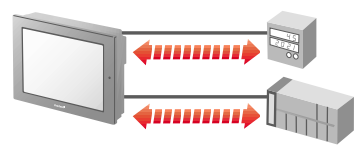
< Accommodates USB data storage >

- You can easily transport data with commercially available USB storage media.
- The optional USB cable (for the front-mounted USB port) offers greater data portability.



< SIO 2ch serial ports provided as standard >

- ST3000 can communicate simultaneously with devices such as PLC, Temperature and Process Controllers.
- COM1:RS-232C COM2:RS-422/485



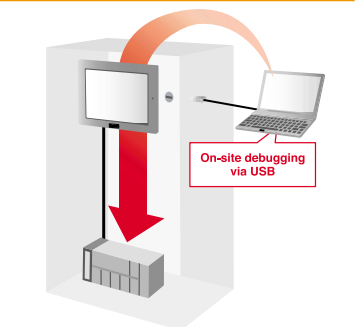
< Device Monitor >

- The PLC device data clearly appears on the screen.
- With its enhanced support for various protocols, the ST3000 Series securely a variety of device.



< Pass-through >

- Via USB cable the debug becomes supremely user-friendly.



Supported PLC models

Mitsubishi Electric Corporation
• A Series CPU Direct • FX Series CPU Direct • Q Series CPU Direct • QnA Series CPU Direct • QJ Series CPU Direct

OMRON Corporation
• CS/CJ Series Ethernet • CS/CJ Series HOST Link

YASKAWA Electric Corporation
• MP Series SIO (Extension) • MP Series Ethernet (Extension)

YOKOGAWA Electric Corporation
• Personal Computer Link SIO • Personal Computer Link Ethernet

Siemens AG
• SIMATIC S7 MPI Direct

Rockwell Automation, Inc.
• DF1

More Flexible Application of Data Assets

Text Tables

Easily switch between various languages on the same screen. Simply use copy & paste functions to place data into the text table after translation in CSV or Excel format. The number of lines in the text table is up to 10,000.



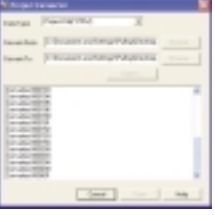
PC Simulation

If you change values of a device on another window, you can carry out that change to simulate on your computer screen.



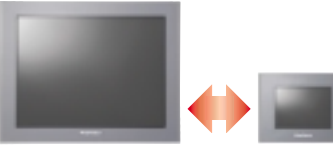
File Converter

Your screen data resources created with GP-PRO/PBIII can be converted for use in GP-Pro EX.



Resolution Converter

Project data can be automatically converted according to the resolution each ST provides. Therefore, converting process for adjusting to a different screen size is dramatically reduced.



International Pro-face



Our Environmental Policy and Compliance with the RoHS Directive

Pro-face has taken significant steps to meet increasingly stringent requirements for environmental preservation and has sought to comply with the RoHS Directive by adopting measures to eliminate specified harmful substances from existing products and products to be manufactured and sold beginning in 2006. For details, please refer to our web site or contact our sales office in your country.

ACCESS!!

www.pro-face.com

Worldwide Contacts:
<http://www.pro-face.com/worldwide/>

Conformity with International Safety Standards

UL / CE / RoHS / REACH / CE

Pro-face products and component parts bearing the CE Mark and the UL or c-UL Listing and Recognized Component Marks are your guarantees of compliance with safety standards accepted in countries and regions worldwide.

Caution: Before operating any of these products, be sure to read all related manuals thoroughly.

- For printing purposes, the colors in this catalog may differ from those of the actual unit.
- LCD screens may exhibit minute grid-points (light and dark) on the Display Panel surface.
- "Contouring" - where some parts of the screen are brighter than others, producing a wavelike pattern - may occasionally occur. Both are normal for an LCD display and are not defects.
- Actual user screens may differ from the screens shown here.
- All product names used in this catalog are the registered trademarks or trademarks of their respective companies.
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Pro-face®

The birth of a new standard display that revolutionizes operator interfaces

Introducing the ST3000 Series - a new approach to operator interfaces



Graphic Operator Interfaces
ST3000SERIES

Flexible system responsiveness of programmable Operator Interfaces give you the power and flexibility you need

10.4"

VGA
(640 × 480)

10.4" model with slim frame makes assemblies much more streamlined!

ST-3501T AC Model
Model : AST3501-T1-AF
Display Device : TFT Color LCD
Display Colors : 256 Colors (No Blink) / 64 Colors (3-speed Blink)

ST-3501C DC Model
Model : AST3501-C1-AF
Display Device : Color LCD
Display Colors : 16 Colors

USB (Host)

CF Card

SIO 2ch
RS-232C/422

7.5"

VGA
(640 × 480)

7.5" VGA display enables assemblies to be more compact

ST-3401T DC Model
Model : AST3401-T1-D24
Display Device : TFT Color LCD
Display Colors : 256 Colors (No Blink) / 64 Colors (3-speed Blink)

USB (Host)

CF Card

SIO 2ch
RS-232C/422

5.7"

QVGA
(320 × 240)

Popular 5.7" size shows more performance than specifications

ST-3301S DC Model
Model : AST3301-S1-D24
Display Device : STN Color LCD
Display Colors : 256 Colors (No Blink) / 64 Colors (3-speed Blink)

ST-3301B DC Model
Model : AST3301-B1-D24
Display Device : Monochrome Blue Mode LCD
Display Colors : Blue and White (8 Shades)

USB (Host)

SIO 2ch
RS-232C/422

3.8"

QVGA
(320 × 240)

Compact 3.8" QVGA display delivers excellent display clarity

ST-3201A DC Model
Model : AST3201-A1-D24
Display Device : Monochrome Amber/Red LCD
Display Colors : Black and White (8 Shades)

ST-3211A DC Model
Model : AST3211-A1-D24
Display Device : Monochrome Amber/Red LCD
Display Colors : Black and White (8 Shades)

USB (Host)

SIO 2ch
ST-3211A: RS-232C/422
ST-3201A: RS-232C/485

GP-Pro EX

GP-Pro EX simplifies the engineer's goal - combining design with functionality. Now you can easily create ideal user interfaces.

User-friendly Operation

Stroke Font

Beautiful stroke fonts provide greater layout flexibility. They can be bolded, outlined and smoothly enlarged / reduced in single-dot increments.

Analog Touch Panel

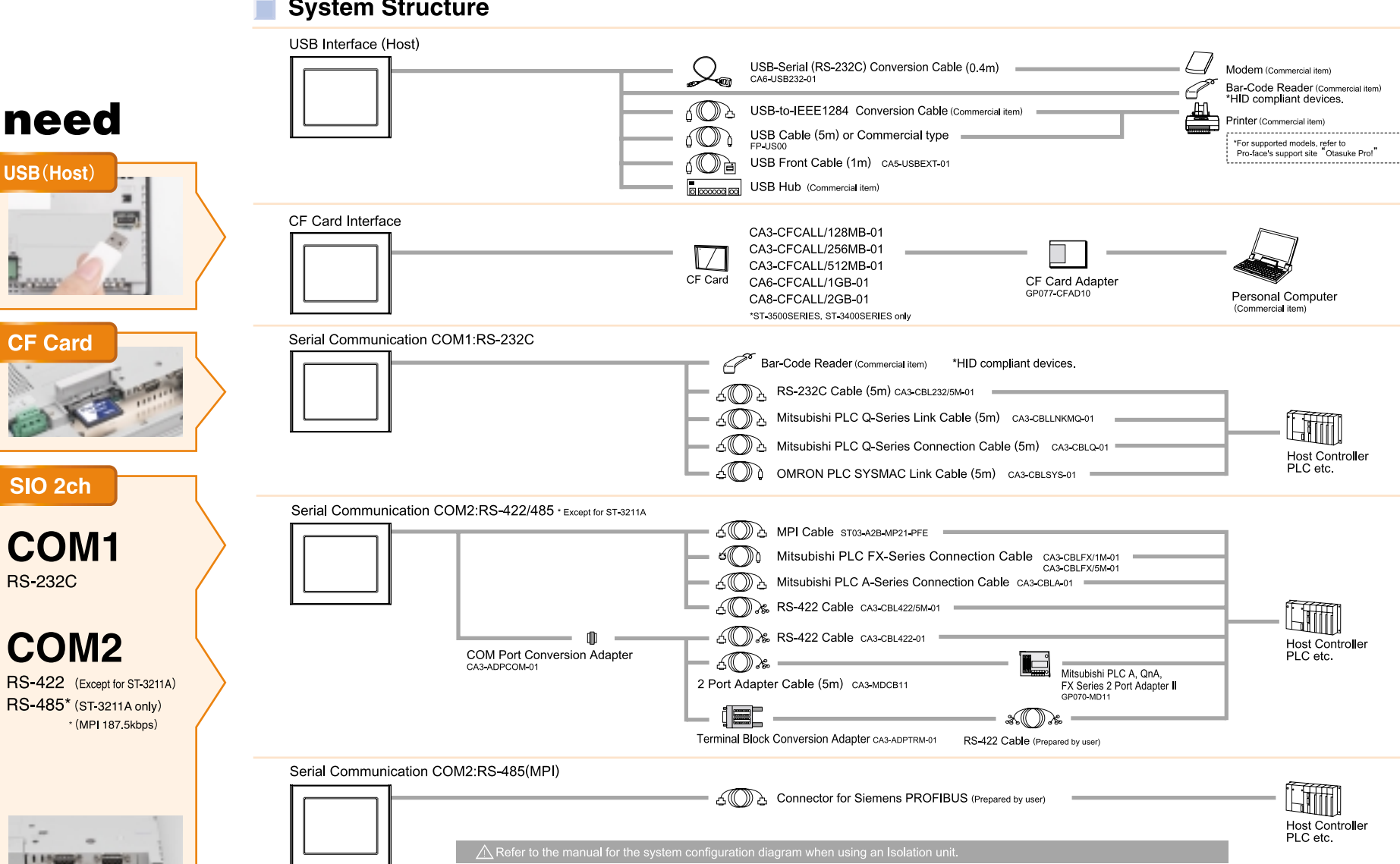
The screen has no grid. Parts can be placed wherever desired.

Parts Toolbox

Parts toolbox improves visualization of the arrangement of parts on the screen.

drag & drop

A wide variety of parts are prepared. A wide variety of images can be created.



Main Specifications										
FUNCTIONAL SPECIFICATIONS	10.4"				7.5"		5.7"		3.8"	
	AST3501-T1-AF	AST3501-T1-D24	AST3501-C1-AF	AST3501-C1-D24	AST3401-T1-D24	AST3301-S1-D24	AST3301-B1-D24	AST3201-A1-D24	AST3211-A1-D24	
Display Type	TFT Color LCD		Color LCD		TFT Color LCD	STN color LCD	Monochrome blue mode LCD		Monochrome Amber/Red LCD	
Display Colors	256 Colors (no blink) / 64 Colors (Enables blink feature)		16 Colors		256 Colors (no blink) / 64 Colors (Enables blink feature)	64 Colors (Enables blink feature)	8 Shades		Black and White (8 Shades)	
Display Resolution	640X480 pixels		320X240 pixels		320X240 pixels		320X240 pixels		16 gradations (adjustable via touch panel)	
Brightness Control	8 gradations (adjustable via touch panel)		8 levels of adjustment available via touch panel		8 gradations (adjustable via touch panel)		8 gradations (adjustable via touch panel)		16 gradations (adjustable via touch panel)	
Contrast Adjustment	8 gradations (adjustable via touch panel)		8 gradations (adjustable via touch panel)		8 gradations (adjustable via touch panel)		8 gradations (adjustable via touch panel)		8 gradations (adjustable via touch panel)	
Language Fonts	Japanese: 6962 (JIS standards 1 & 2 including 607 non-kana characters) ANK: 158 (Korean fonts, Simplified Chinese and Taiwanese traditional Chinese fonts are downloadable)		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 dot fonts. Stroke font: 6 to 127 dot fonts		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 dot fonts. Stroke font: 6 to 127 dot fonts		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 dot fonts. Stroke font: 6 to 127 dot fonts		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 dot fonts. Stroke font: 6 to 127 dot fonts	
Text Composition	Character Sizes		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 dot fonts. Stroke font: 6 to 127 dot fonts		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 dot fonts. Stroke font: 6 to 127 dot fonts		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 dot fonts. Stroke font: 6 to 127 dot fonts		Standard font: 8 x 8, 8 x 16, 16 x 16 and 32 x 32 dot fonts. Stroke font: 6 to 127 dot fonts	
	Font Sizes		8 x 8 dots, 8 x 16 dots, 16 x 16 dots, 32 x 32 dots		8 x 8 dots, 8 x 16 dots, 16 x 16 dots, 32 x 32 dots		8 x 8 dots, 8 x 16 dots, 16 x 16 dots, 32 x 32 dots		8 x 8 dots, 8 x 16 dots, 16 x 16 dots, 32 x 32 dots	
Text	8 x 8 dots		80 char. x 60 rows		80 char. x 60 rows		40 char. x 30 rows		40 char. x 15 rows	
	8 x 16 dots		80 char. x 30 rows		80 char. x 30 rows		40 char. x 15 rows		20 char. x 15 rows	
Memory	16 x 16 dots		40 char. x 30 rows		40 char. x 30 rows		20 char. x 15 rows		20 char. x 15 rows	
	32 x 32 dots		20 char. x 15 rows		20 char. x 15 rows		10 char. x 7 rows		10 char. x 7 rows	
Touch Panel	Application		6 MB FLASH EPROM *2		320 KB SRAM		Resistive film (analog)		Resistive film (analog)	
	Data Backup		Type		Type		Type		Type	
Interface	Resolution		1024X1024		1024X1024		1024X1024		1024X1024	
	Serial Interface (COM1)		Asynchronous Transmission: RS-232C, Data Length: 7 or 8 bits, Parity: None, Odd or Even, Stop Bit: 1/2 bits, Data Transmission Speed: 2400 bps to 115.2 kbps, Connector: D-Sub 9-pin plug		Asynchronous Transmission: RS-232C, Data Length: 7 or 8 bits, Parity: None, Odd or Even, Stop Bit: 1/2 bits, Data Transmission Speed: 2400 bps to 115.2 kbps, Connector: D-Sub 9-pin plug		Asynchronous Transmission: RS-232C, Data Length: 7 or 8 bits, Parity: None, Odd or Even, Stop Bit: 1/2 bits, Data Transmission Speed: 2400 bps to 115.2 kbps, Connector: D-Sub 9-pin plug		Asynchronous Transmission: RS-232C, Data Length: 7 or 8 bits, Parity: None, Odd or Even, Stop Bit: 1/2 bits, Data Transmission Speed: 2400 bps to 115.2 kbps, Connector: D-Sub 9-pin plug	
Interface	Serial Interface (COM2)		Asynchronous Transmission: RS-422/485 (ST-3211A only for RS-485), Data Length: 7 or 8 bits, Parity: none, Odd or Even, Data Transmission Speed: 2400 bps to 115.2 kbps (MPI: 187.5 kbps *3), Connector: D-Sub 9-pin plug		Asynchronous Transmission: RS-422/485 (ST-3211A only for RS-485), Data Length: 7 or 8 bits, Parity: none, Odd or Even, Data Transmission Speed: 2400 bps to 115.2 kbps (MPI: 187.5 kbps *3), Connector: D-Sub 9-pin plug		Asynchronous Transmission: RS-422/485 (ST-3211A only for RS-485), Data Length: 7 or 8 bits, Parity: none, Odd or Even, Data Transmission Speed: 2400 bps to 115.2 kbps (MPI: 187.5 kbps *3), Connector: D-Sub 9-pin plug		Asynchronous Transmission: RS-422/485 (ST-3211A only for RS-485), Data Length: 7 or 8 bits, Parity: none, Odd or Even, Data Transmission Speed: 2400 bps to 115.2 kbps (MPI: 187.5 kbps *3), Connector: D-Sub 9-pin plug	
	USB Interface		USB Type A connector x 1		USB Type A connector x 1		USB Type A connector x 1		USB Type A connector x 1	
CF Card Interface		CF card slot (TYPE-II) x 1		CF card slot (TYPE-II) x 1		CF card slot (TYPE-II) x 1		CF card slot (TYPE-II) x 1		

GENERAL SPECIFICATIONS									
GENERAL SPECIFICATIONS	10.4"		7.5"		5.7"		3.8"		
	AST3501-T1-AF	AST3501-T1-D24	AST3501-C1-AF	AST3501-C1-D24	AST3401-T1-D24	AST3301-S1-D24	AST3301-B1-D24	AST3201-A1-D24	AST3211-A1-D24
International Safety Standards	UL60950-1, CSA-C22.2 No.60950-1-03, CE Marking EN55011 Class A and EN60950-1		UL60950-1, CAN/CSA-C22.2 No.60950-1-03, CE Marking EN55011 Class A and EN61131-2		UL60950-1, CAN/CSA-C22.2 No.60950-1-03, CE Marking EN55011 Class A and EN61131-2		UL508, CSA-C22.2, No.142-M1987, CE Marking EN55011 Class A and EN61131-2		
Conforming Standards	UL60950-1, CSA-C22.2 No.60950-1-03, CE Marking EN55011 Class A and EN60950-1		UL60950-1, CAN/CSA-C22.2 No.60950-1-03, CE Marking EN55011 Class A and EN61131-2		UL60950-1, CAN/CSA-C22.2 No.60950-1-03, CE Marking EN55011 Class A and EN61131-2		UL508, CSA-C22.2, No.142-M1987, CE Marking EN55011 Class A and EN61131-2		
Input Voltage	AC100V to AC240V		DC24V		AC100V to AC240V		DC24V		
Rated Voltage	AC85V to AC265V		DC19.2V to DC28.8V		AC85V to AC265V		DC19.2V to DC28.8V		
Allowable Voltage	10ms or less (Voltage Drop interval must be 1s or more)		10ms or less (Voltage Drop interval must be 1s or more)		10ms or less (Voltage Drop interval must be 1s or more)		10ms or less (Voltage Drop interval must be 1s or more)		
Power Consumption	AC100V/50Hz or less (TYP.48W) AC240V/50Hz or less (TYP.96W)		45W or less		AC100V/50Hz or less (TYP.48W) AC240V/50Hz or less (TYP.96W)		45W or less		
Voltage Endurance	AC1500V 20mA/1minute		AC1000V 20mA/1minute		AC1500V 20mA/1minute		AC1000V 20mA/1minute		
Isolation Resistance	10MQ or higher at DC500V (between charging and FG terminals)		10MQ or higher at DC500V (between charging and FG terminals)		10MQ or higher at DC500V (between charging and FG terminals)		10MQ or higher at DC500V (between charging and FG terminals)		
Surrounding Air Temperature	0°C to +50°C		0°C to +50°C		0°C to +50°C		0°C to +50°C		
Storage Temperature	-20°C to +60°C		-20°C to +60°C		-20°C to +60°C		-20°C to +60°C		
Humidity	10 to 90% RH (Wet bulb temperature: 39°C max., no condensation.)		10 to 90% RH (Wet bulb temperature: 39°C max., no condensation.)		10 to 90% RH (Wet bulb temperature: 39°C max., no condensation.)		10 to 90% RH (Wet bulb temperature: 39°C max., no condensation.)		
Storage Humidity	10 to 90% RH (Wet bulb temperature: 39°C max., no condensation.)		10 to 90% RH (Wet bulb temperature: 39°C max., no condensation.)		10 to 90% RH (Wet bulb temperature: 39°C max., no condensation.)		10 to 90% RH (Wet bulb temperature: 39°C max., no condensation.)		
Pollution Degree	For use in Pollution Degree 2 environment		For use in Pollution Degree 2 environment		For use in Pollution Degree 2 environment		For use in Pollution Degree 2 environment		
Free of corrosive gases	Free of corrosive gases		Free of corrosive gases		Free of corrosive gases		Free of corrosive gases		
Air Pressure Vibration Resistance (available altitude)	800 to 1114hPa (2,000 meters above sea-level and below)		800 to 1114hPa (2,000 meters above sea-level and below)		800 to 1114hPa (2,000 meters above sea-level and below)		800 to 1114hPa (2,000 meters above sea-level and below)		
Vibration Resistance	IEC61131-2 compliant 5 Hz to 9 Hz single amplitude 3.5 mm 9 Hz to 150 Hz fixed acceleration 9.8 m/s ² X, Y, Z directions for 10 times (100 min.)		IEC61131-2 compliant 5 Hz to 9 Hz single amplitude 3.5 mm 9 Hz to 150 Hz fixed acceleration 9.8 m/s ² X, Y, Z directions for 10 times (100 min.)		IEC61131-2 compliant 5 Hz to 9 Hz single amplitude 3.5 mm 9 Hz to 150 Hz fixed acceleration 9.8 m/s ² X, Y, Z directions for 10 times (100 min.)		IEC61131-2 compliant 5 Hz to 9 Hz single amplitude 3.5 mm 9 Hz to 150 Hz fixed acceleration 9.8 m/s ² X, Y, Z directions for 10 times (100 min.)		
Noise Immunity (Via noise simulator)	Noise Voltage: 1500 Vp-p Pulse Duration: 1 μs Rise Time: 1 ns		Noise Voltage: 1000 Vp-p Pulse Duration: 1 μs Rise Time: 1 ns		Noise Voltage: 1000 Vp-p Pulse Duration: 1 μs Rise Time: 1 ns		Noise Voltage: 1000 Vp-p Pulse Duration: 1 μs Rise Time: 1 ns		
Electrostatic Discharge Immunity	6kV (complies with EN61000-4-2 Level 3)		6kV (complies with EN61000-4-2 Level 3)		6kV (complies with EN61000-4-2 Level 3)		6kV (complies with EN61000-4-2 Level 3)		
Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
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Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
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Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
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Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
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Grounding	Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		Functional Grounding: D-type grounding (SG-FG common)		
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